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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/036,740	12/31/2001	Young-Hwa Kim	H49.12-0002	4461

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EXAMINER

PIERCE, JEREMY R

ART UNIT	PAPER NUMBER
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1771

DATE MAILED: 10/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/036,740

Applicant(s)

KIM ET AL.

Examiner

Jeremy R. Pierce

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*[Handwritten signature]*

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 14 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 15-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 15-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 7/14/04.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on July 14, 2004 has been entered.

### ***Response to Amendment***

2. The amendment filed on July 14, 2004 has been entered. Claims 1, 15, and 16 have been amended. Claims 18-20 have been added. The 35 USC 102 rejections set forth in sections 4 and 5 are withdrawn because both Gould et al. and Nakanishi et al. fail to teach a woven fabric substrate.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-10 and 18-20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject

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matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 1 now recites the first layer of the guard plate assemblies "permeating at least the top surface of the fabric substrate to affix the guardplates [sic] to the fabric substrate." Support for this limitation is not found in the specification. The specification does not discuss what meaning "permeating" might have. If support is to be found in the drawings, it is not readily clear what the limitation is supposed to mean.

Additionally, with regard to claims 1 and 18-20, any limitation added to the claim that is derived from the drawings must also be written into the specification, if said limitation does not already find support in the specification. But care must be taken not to add new matter to the specification in doing so.

Claim 18 and 19 are considered new matter because it is not clear how the drawings of Figures 2-4 support the new limitations.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-10 and 18-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the first layer of the guard plate assemblies "permeating at least the top surface of the fabric substrate to affix the guardplates [sic] to the fabric substrate." It is not clear what this limitation is supposed to mean. How do the guard

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plates permeate the top surface of the fabric substrate? How does this recitation further limit the claim?

Claims 18 recites "wherein a lesser extent of the height of each of the plurality of polygonal guard plates permeate the top surface of the fabric substrate." Claim 19 is similar, but recites a "greater extent." What are these limitations supposed to mean? What are the lesser and greater being compared to? The scope of these claims is unclear.

### ***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-3, 8, and 15-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakanishi et al. (U.S. Patent No. 5,853,854) in view of Fukuoka (U.S. Patent No. 3,952,358).

Nakanishi et al. disclose a multi-layer structure comprising a base sheet and a rugged pattern of a predetermined shape adhered to the base sheet (column 2, lines 31-38). The base sheet may be any suitable fabric that is used in the outer sole of shoes (column 6, lines 25-29), but Nakanishi et al. do not disclose the use of a woven fabric. Juzenko discloses that the sole of shoe may be made with either woven or nonwoven fabric (column 13, lines 1-4). It would have been obvious to a person having

ordinary skill in the art at the time of the invention to use a woven fabric in the outer sole of Nakanishi et al., since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use. *In re Leshin*, 125 USPQ 416. Nakanishi et al. teach that various layers of elastomer material are pored on the fabric to provide the shaped patterns (see Figures 2A and 2B). With regard to claim 2, the second layer may completely cover the first layer (Figure 4A). With regard to claim 3, the second layer does not need to completely cover the first layer (Figure 4B). With regard to claim 8, a third layer may be added to the second (Figure 7A). With regard to claims 16 and 20, Nakanishi et al. show the presence of a plurality of linear gaps between plates (See Figure 6). With regard to claim 17, the elastomer material may comprise an epoxy resin (column 13, line 13).

9. Claims 1, 2, 10, 15, 16, and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fortier et al. (U.S. Patent No. 4,810,559).

Fortier et al. disclose a protective web comprising a piece of fabric with a plurality of small platelets spaced on the fabric (column 1, lines 31-40). The platelets may be glued onto the fabric (column 1, line 44). The first material comprising the platelets would be the glue, and the second material would be the platelets themselves. Fortier et al. fail to teach that the glue would form the shape of a polygonal guard plates. However, Figure 3A shows the plates glued onto the fabric. The glue appears to be only present where the plates are present. Therefore, the glue would have the same area as the plates, and thus, also have the same shape of the plates. In gluing the plates onto the fabric, a person of skill in the art could either 1) apply the glue on the

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plates, and then stick the plates on the fabric, or 2) apply the glue onto the fabric and place the plates onto the glue. It would have been obvious to a person having ordinary skill in the art at the time of the invention to apply the glue to the plates, thus giving the glue layer the shape of a polygonal plate in order to avoid making the fabric sticky and to save on the amount of glue used. With regard to claim 10, the platelets would inherently be more wear resistant than the glue because the platelets are placed on the fabric to supply wear resistance (Abstract), and would not be needed in the invention of Fortier et al. if the glue were capable of providing wear resistance. With regard to claims 15 and 16, glue is a printable material.

10. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fortier et al. in view of Neal et al. (U.S. Patent No. 6,035,438).

Fortier et al. do not disclose using a third material. Neal et al. disclose using epoxy resin and glass or aramid fibers onto ballistic resistant plates in order to increase its ability to absorb impact (column 4, lines 52-55). It would have been obvious to one having ordinary skill in the art to add epoxy resin and glass or aramid fibers onto the surface of the disks in Fortier et al. in order to increase the ability to absorb impact, as taught by Neal et al.

11. Claims 3, 6, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fortier et al. in view of Neal et al. and further in view of Moureaux et al. (U.S. Patent No. 5,943,694).

The combination of Fortier et al. and Neal et al. do not teach the additional material, epoxy resin and glass or aramid fibers, to not completely cover the plate. The

combination also does not teach that not all plates need to be covered with the additional material. Moureaux et al. teach that when a ballistic resistant material is reinforced with another material, that the reinforcement need only be present in the areas where it is most needed (column 7, line 64 –column 8, line 3). It would have been obvious to one having ordinary skill in the art to cover some but not all of the plates of Fortier et al. and to partially cover other plates of Fortier et al. where protection is needed most with the epoxy resin and glass or aramid fibers in order to better protect vital areas and keep the garment lightweight by avoiding unnecessary coating.

12. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakanishi et al.

With regard to claim 9, Nakanishi et al. do not disclose that the second layer of material has a higher friction than the first material. However, Nakanishi et al. do disclose the properties of the elastomeric layers, such as hardness, elasticity, shock absorbing capability, luster, and sanitizing can be adjusted according to the intended use (column 8, lines 33-36). It would have been obvious to a person having ordinary skill in the art at the time of the invention to make the second layer have higher friction by adjusting the hardness, elasticity, shock absorbing capability, and luster of the two elastomeric materials in order to provide a material with better grip on the outside layers. With regard to claim 10, Nakanishi et al. do not disclose that the second layer of material is more resistive to wear than the first material. However, Nakanishi et al. do disclose the properties of the elastomeric layers, such as hardness, elasticity, shock absorbing capability, luster, and sanitizing can be adjusted according to the intended



use (column 8, lines 33-36). It would have been obvious to a person having ordinary skill in the art at the time of the invention to make the second layer have higher resistance to wear by adjusting the hardness, elasticity, shock absorbing capability, and luster of the two elastomeric materials in order to provide a material with improved durability on the outside layers.

### ***Response to Arguments***

13. Applicant's arguments filed July 14, 2004 have been fully considered but they are not persuasive.

14. Applicant argues that Nakanishi et al. do not teach a woven fabric material. However, this argument is moot given the new grounds of rejection set forth above.

15. Applicant argues that the printed feature of claim 15 is structurally distinguishable to the elastomer poured or molded on a base material. However, the Examiner disagrees. Printing a polymer material onto a fabric creates a shaped polymer material on a fabric. Molding a polymer material onto a fabric creates a shaped polymer material on a fabric. While the methods may be different, the final product is not. Since the claims are directed to a product rather than a method, product limitations are what define the claim.

16. Applicant argues that Fortier et al. simply do not disclose how glue affixes plates to substrates. It is true that Fortier et al. do not provide detailed instructions on how to glue a plate to a fabric. However, the process of gluing one material to another is not entirely complex. If a plate were to be glued onto a fabric, then one would assume that

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the glue would be coterminous with the plate in order to effectively bond it to the fabric, unless otherwise directed. Even if the glue is not inherently coterminous with the plates in the Fortier reference, the Examiner has provided motivation above in the rejection for providing the glue in a coterminous fashion to the plates. The glue is considered structural to the guard plate because it has the same shape as the guard plate.

17. Applicant argues that Fortier teach that the plates are preferably circular. However, the Fortier reference is not limited to only its preferred embodiments. The reference, as a whole, teaches the use of polygonal plates.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeremy R. Pierce whose telephone number is (571) 272-1479. The examiner can normally be reached on Monday-Thursday 7-4:30 and alternate Fridays 7-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JRP

JRP

October 1, 2004

A handwritten signature in black ink, appearing to read "Terrel Morris", with a stylized flourish at the end.

TERREL MORRIS  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700